

UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Egbert Classen et al
Application Number: 10/564,433
Filing Date: 01/10/2006
Group Art Unit: 1792
Examiner: Rita Ramesh Patel
Title: DISHWASHER COMPRISING A HEAT TUBE

Mail Stop Appeal Brief - Patents

Commissioner for Patents

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APPEAL BRIEF

Pursuant to 37 CFR 1.192, Appellants hereby file an appeal brief in the above-identified application. This Appeal Brief is accompanied by the requisite fee set forth in 37 CFR 1.17(f).

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(1) REAL PARTY IN INTEREST

The real party in interest is BSH Bosch und Siemens Hausgeräte GmbH.

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) STATUS OF CLAIMS

Claims 1-9 are canceled. Claims 10-18 are pending in the present application and have been finally rejected. The final rejection of claims 10-18 is being appealed.

(4) STATUS OF AMENDMENTS

In response to the Final Rejection dated March 25, 2009, Appellants filed an Amendment After Final Rejection on May 20, 2009. The Amendment was entered by the Examiner.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

The invention relates to a dishwasher comprising a cleaning container. In particular, a dishwasher 1 includes a washing container 2 where crockery baskets for placing items to be washed are arranged. The dishwasher 1 includes a conduit system 4 connected in an air-conveying manner to the washing container 2. At least one heat tube 10 is used on the one hand for cooling and thereby drying and on the other hand for heating air passed through from the washing container 2. See page 6, lines 9-23.

The washing container 2 has an outlet 3 that leads to the conduit system 4. Both ends 11, 12 of the at least one heat tube 10 protrude from the washing container 2. One of the ends of the heat tube extends into the cold side portion of the conduit system, and the other end of the heat tube extends into the hot side portion of the conduit system. See page 6, line 25 - page 7, line 3.

The conduit system 4 is operable to guide air from the washing basket 2 through the cold side portion 11, whereupon the one end of the heat tube 10 promotes a cooling of air in the cold side portion 11 of the conduit system 4 with a resultant condensing of moisture out of the cooled air. The heat tube 10 thereafter guides cooled air from the cold side portion 11 to the hot side portion 12, whereupon the other end of the heat tube 10 promotes heating of the air in the hot side portion of the conduit system 4. Thereafter, the conduit system guides the heated air from the hot side portion 12 to the washing container 2. The heat tube 10 operates to conduct heat from its one end extending into the cold portion 11 of the conduit system 4 to its other end extending into the hot portion 12 of the conduit system 4 with the one end of the heat tube 10 receiving heat from air guided therepast at the cold side portion 11 of the conduit system 4 and conducting such received heat to its other end. See page 9, line 7 - page 10, line 13.

Specific Support for Independent Claim 10

Claim 10 defines a dishwasher having a washing basket and a conduit system connected to the washing basket in an air-guiding manner such that air is guided from the washing basket to the conduit system and air is guided from the conduit system to the washing basket. [See, e.g., page 6, lines 9-23] The conduit system includes a cold side portion and a hot side portion and at least one heat tube having a pair of ends. One of the ends of the heat tube extends into the cold side portion of the conduit system, and the other end of the heat tube extends into the hot side portion of the conduit system. [See, e.g., page 6, line 25 - page 7, line 3] The conduit system is operable to guide air from the washing basket through the cold side portion, whereupon the one end of the heat tube promotes a cooling of air in the cold side portion of the conduit system with a resultant condensing of moisture out of the cooled air, to thereafter guide cooled air from the cold side portion to the hot side portion, whereupon the other end of the heat tube promotes heating of the air in the hot side portion of the conduit system. Thereafter, the conduit system guides the heated air from the hot side portion to the washing container. The heat tube operates to conduct heat from its one end extending into the cold portion of the conduit system to its other end extending into the hot portion of the conduit

system with the one end of the heat tube receiving heat from air guided therepast at the cold side portion of the conduit system and conducting such received heat to its other end. [See, e.g., page 9, line 7 - page 10, line 13]

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- A) Whether claims 10-18 are unpatentable under 35 U.S.C. § 102(b) over U.S. Patent No. 5,076,306 to Suzuki.

(7) ARGUMENT

- A) Claims 10-18 are patentable under 35 U.S.C. § 102(b) over Suzuki.

It is well settled that in order to support a rejection under 102(b), the Examiner must find each and every limitation of the rejected claim in a single prior art reference. See, e.g., *SSIH Equipment v. U.S. International Trade Commission*, 718 F.2d 365, 377, 218 USPQ 678, 688 (Fed. Cir. 1983) and *Structural Rubber Products v. Park Rubber Company*, 749 F.2d 707, 715, 223 USPQ 1264 (Fed. Cir. 1984). ("The reference must show the identical invention in as complete detail as in the patent claim.") *Richardson v. Suzuki*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). As noted above, claim 10 defines a dishwasher including a conduit system with at least one heat tube having a pair of ends, one of the ends of the heat tube extending into the cold side portion of the conduit system and the other end of the heat tube extending into the hot side portion of the conduit system. Suzuki lacks any such heat tube, and the Office Action in fact does not reference a single teaching in the Suzuki patent that even purportedly meets this claimed structure. Appellants thus respectfully submit that the rejection is *per se* misplaced as lacking a proper foundation and failing to identify features in the cited Suzuki patent that purportedly meet each and every feature of the claimed invention.

Suzuki in fact lacks any such heat tube. Suzuki describes that after the last washing cycle is complete and the water is fully drained, the heater 13 and fan 21 are activated. The compartment air is heated by the heater 13, and the air is circulated between a circulating pathway 25 and drying compartment 2 by the fan 21. Outside air is passed into the cooling air

pathway 36 by the fan 21. The outside air is drawn into the circuit to act in heat exchange during circulation of the drying air for the purpose of dehumidifying the drying air and increasing drying efficiency. See, for example, col. 4, lines 53-58.

In contrast, the dishwasher defined in claim 10 utilizes a heat tube with one end extending into the cold side portion of the conduit system and another end extending into the hot side portion of the conduit system. The conduit system guides air from the washing basket through the cold side portion, “whereupon the one end of the heat tube promotes a cooling of air in the cold side portion of the conduit system,” and the conduit system guides cooled air from the cold side portion to the hot side portion. With the other end of the at least one heat tube extending into the hot side portion of the conduit system, “the other end of the heat tube promotes heating of the air in the hot side portion of the conduit system.” The conduit system subsequently guides the heated air from the hot side portion to the washing container. The heat tube positioned between the cold side portion and the hot side portion of the conduit system thus serves to initially cool the air from the washing basket in the cold side portion of the conduit system and subsequently heat the air going to the washing basket in the hot side portion of the conduit system. Appellants submit that the Suzuki patent does not include any such structure. As a consequence, Appellants submit that the rejection is misplaced.

In the Advisory Action, the Examiner references a “drying circuit” in Suzuki and contends that “[t]his drying circuit of Suzuki reads on claims for a ‘heat tube’ since air is heated and dehumidified for the purposes of increasing drying efficiency.” The Examiner further provides that the “drying circuit” of Suzuki “reads on Applicant’s claims since it can perform the claimed functions.” With reference to the discussion above, however, claim 10 defines the structure of a dishwasher including a conduit system having at least one heat tube with opposite ends extending respectively into a cold side portion of the conduit system and a hot side portion of the conduit system. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d

1051, 1053 (Fed. Cir. 1987). See also MPEP §2131. Nothing in U.S. patent law supports the Examiner's contention that if prior art structure "can perform the claimed functions" regardless of structural differences, the prior art structure "still reads on" the Appellants' claims. The conclusions in the Advisory Action are thus misplaced as a matter of law.

Moreover, Appellants do not find the term "drying circuit" in the Suzuki patent. Rather, Suzuki describes that after a washing cycle is complete, the heater 13 and a double faced fan 21 are activated. The air is circulated between the circulating wind pathway 25 and drying compartment 2 by the double faced fan 21. Outside air is also passed into the cooling air pathway 36 by the double faced fan 21. Since the drying air is drawn from the suction side of the double faced fan 21, flow velocity of the air is slow. After the air goes out from the leading outlet 16 in the upward direction, the air flows downward and upward again. Then, the air is drawn into the fan 21 and reaches the duct 14 leading to the inlet 15. On the other side, since the outside air is drawn from the suction opening 32 just near the double faced fan 21, flow velocity of the air is quick, and the air lowers the temperature of that portion of the U-shaped pathway 25.

According to Suzuki, since the drying air which goes out to the circulating air pathway 25 has a slow flow velocity, there is a large cooling capacity and a large area of heat exchange. The air is effectively dehumidified and heated again in the drying compartment 2. Additionally, Suzuki describes that since the heat of the air used for drying is exchanged with outside air during the circulation of drying air between the drying room and air circulation pathway, the drying air will become dehumidified and the drying efficiency can be increased markedly. See col. 3, line 55 – col. 4, line 58.

The heat exchange "circuit" in Suzuki nowhere includes any structure corresponding to the claimed heat tube. Still further, as noted, the air circulation scheme described in Suzuki lacks structure where one end of a heat tube extends into a cold side portion of a conduit system and another end of a heat tube extends into a hot side portion of the conduit system to effect a heat exchange.

For these reasons also, Appellants submit that the rejection is misplaced.

Claims 11-18 depend from claim 10 and are allowable for the same reasons and also because they recite additional patentable subject matter. In particular, the dependent claims define additional features of the at least one heat tube, which also are lacking in the Suzuki patent.

Reversal of the rejection is respectfully requested.

(8) CONCLUSION

In view of the foregoing discussion, Appellants respectfully request reversal of the Examiner's rejection.

Respectfully submitted,

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CLAIMS APPENDIX

- 1-9. (Canceled)
10. (Rejected) A dishwasher comprising:
a washing basket; and

a conduit system connected to the washing basket in an air-guiding manner such that air is guided from the washing basket to the conduit system and air is guided from the conduit system to the washing basket and the conduit system including a cold side portion and a hot side portion and including at least one heat tube having a pair of ends, one of the ends of the heat tube extending into the cold side portion of the conduit system and the other end of the heat tube extending into the hot side portion of the conduit system and the conduit system being operable to guide air from the washing basket through the cold side portion, whereupon the one end of the heat tube promotes a cooling of air in the cold side portion of the conduit system with a resultant condensing of moisture out of the cooled air, to thereafter guide cooled air from the cold side portion to the hot side portion, whereupon the other end of the heat tube promotes heating of the air in the hot side portion of the conduit system, and to thereafter guide such heated air from the hot side portion to the washing container and the heat tube operating to conduct heat from its one end extending into the cold portion of the conduit system to its other end extending into the hot portion of the conduit system with the one end of the heat tube receiving heat from air guided therepast at the cold side portion of the conduit system and conducting such received heat to its other end.

11. (Rejected) The dishwasher according to claim 10, wherein the conduit system is operable during at least one drying partial programme section of a washing program that is performed by the dishwasher to guide air from the washing basket into the conduit system and back into the washing basket.
12. (Rejected) The dishwasher according to claim 10, wherein the washing container includes an outlet with a pipe communicated with the at least one heat tube, the at least one heat tube includes a pipe communicating one end thereof with the other end thereof, and the washing container includes an inlet with a pipe communicated with the at least one heat tube and further comprising a fan arranged in the outlet with the pipe communicating the washing basket with the at least one heat tube, the fan being operable to supply at least some of the air in the washing basket to the conduit system at least temporarily.
13. (Rejected) The dishwasher according to claim 10, wherein air from the washing basket is cooled by the at least one heat tube.
14. (Rejected) The dishwasher according to claim 10, wherein air guided by the conduit system from the washing basket into the conduit system is heated by the at least one heat tube.
15. (Rejected) The dishwasher according to claim 10 and further comprising a heater arranged in the pipe of the inlet of the washing basket communicated with the other end of the at least one heat tube.
16. (Rejected) The dishwasher according to claim 10 and further comprising a condenser arranged in the pipe of the outlet of the washing basket and the one end of the at least one heat tube.

17. (Rejected) The dishwasher according to claim 10 and further comprising a condenser arranged in the pipe between the one end of the at least one heat tube and the other end of the at least one heat tube.
18. (Rejected) The dishwasher according to claim 10, wherein the heating and cooling of the air which is passed through the conduit system takes place at the same time.

EVIDENCE APPENDIX

None

RELATED APPEALS APPENDIX

None